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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HARRY E. EMERSON, WILLIAM A. GRYWALSKI, and  
GERALD M. LEBOW

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Appeal 2007-4266  
Application 09/477,936  
Technology Center 3600

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Decided: September 29, 2008

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Before HUBERT C. LORIN, LINDA E. HORNER, and  
MICHAEL W. O'NEILL, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Harry E. Emerson, et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-4 and 7-9. Claims 5, 6, and 10-12 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We REVERSE.<sup>1</sup>

## THE INVENTION

“The present invention relates to a method for substituting replacement commercial advertisements in place of original broadcast commercials for radio programs broadcast via the Internet.” Specification 1:11-13.

Method claim 1 and system claim 7, reproduced below, are illustrative of the subject matter on appeal.

1. An interactive method for substituting replacement radio commercials in place of a plurality of broadcast radio commercial streams on an Internet radio program broadcast by a radio station to an Internet hosting service based on user preferences indicating demographic, and personal preferences, comprising the steps of:
  - (a) generating a plurality of replacement radio commercial streams of various predetermined time lengths, whereby each replacement radio commercial has an associated time length;
  - (b) digitizing said replacement radio commercial streams and said associated time lengths;
  - (c) storing in an array said digitized replacement radio commercial streams and said associated time lengths, said array stored at an Internet service provider;

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<sup>1</sup> Our decision will make reference to Appellants’ Appeal Brief (“App. Br.,” filed Jul. 15, 2004) and Reply Brief (“Reply Br.,” filed Dec. 22, 2004), and the Examiner’s Answer (“Answer,” mailed Oct. 27, 2004).

- (d) maintaining user demographic information and user preferences;
- (e) marking each of said broadcast radio commercial streams with a digital marker by said radio station, said digital marker indicating the start and duration time of said broadcast radio commercial within said Internet radio program;
- (f) transmitting said marked Internet radio program stream to said Internet hosting service;
- (g) receiving of said marked Internet radio program stream by said Internet hosting service;
- (h) examining of said marked Internet radio program stream by said Internet hosting service;
- (i) detecting a digital marker of a commercial on said received Internet broadcast program stream;
- (j) reading the duration time, of said commercial, from said detected digital marker;
- (k) comparing said read duration time with said associated time lengths stored in said array;
- (l) selecting from said array a digitized replacement radio commercial having an associated time length equal to said read duration time to match said demographic information and said user preferences with said replacement commercial stream having an associated time length equal to said real duration time;
- (m) substituting said selected digitized replacement radio commercial stream in place of said broadcast commercial stream; and
- (n) repeating steps (h) through (l) until the end of said Internet radio program, whereby the listener of said Internet radio program stream receives an edited program stream having one or more replacement radio commercial streams substituted in place of said broadcast radio commercial.

7. An interactive system for substituting broadcast commercial streams of an Internet radio program stream, with replacement commercial streams, comprising:

(a) radio station means for marking said broadcast commercial streams of said Internet radio program with a mark, said mark indicating the start and time duration of said broadcast commercial stream;

(b) input server means for receiving said marked Internet radio program stream by an Internet hosting service;

(c) commercial storage means of said Internet hosting service for storing a plurality of digitized radio commercial streams and user preferences;

(d) central processor means for selecting one of said digitized radio commercials from said commercial storage means matching said user preferences;

(e) marker decoder means for decoding said mark, said mark being supplied to said central processor;

(f) comparison means to select a digitized radio commercial stream in place of said broadcast commercial stream;

(g) central processor mixing means for generating an edited radio program stream by substituting said selected digitized radio commercial streams in place of said broadcast commercial stream; and

(h) output server means for transmitting said edited radio program stream to a user.

## THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Chen	US 5,917,830	Jun. 29, 1999
Capek	US 6,094,677	Jul. 25, 2000
Wachob	US 5,155,591	Oct. 13, 1992

The following rejection is before us for review:

Claims 1-4 and 7-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chen, Capek, and Wachob.

### ISSUE

The issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 1-4 and 7-9 under 35 U.S.C. §103(a) as being unpatentable over Chen, Capek, and Wachob. The issue turns on whether it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Chen's method and system "for splicing a secondary packetized data stream, such as a commercial, with a with a primary packetized data stream, such as a network television program" (col. 2, ll. 12-14) to obtain a method and system for replacing a plurality of broadcast radio commercial streams on an Internet radio program broadcast by a radio station to an Internet hosting service with a plurality of replacement radio commercial streams, as claimed.

### PRINCIPLES OF LAW

#### *Obviousness*

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 17-18.

## ANALYSIS

Claim 1 describes a method for replacing a plurality of broadcast radio commercial streams on an Internet radio program broadcast by a radio station to an Internet hosting service with a plurality of replacement radio commercial streams. According to the method of claim 1, a plurality of replacement radio commercial streams of various predetermined time lengths are generated (step (a)), digitized, along with their associated time lengths, (step (b)), and stored in an array at an Internet service provider (step (c)). The claimed method further includes digitally marking the start and duration times of the radio commercial streams on the Internet radio program broadcast (step (e)), transmitting the marked Internet radio program broadcast stream to the Internet hosting service (step (f)), receiving the marked Internet radio program broadcast stream at the Internet hosting service (step (g)), examining the marked Internet radio program broadcast

stream by the Internet hosting service (step (h)), detecting a marker (step (i)), and reading the duration time from the detected marker (step (j)). Then, according to the method of claim 1, the read duration time is compared with the associated time lengths stored in the array (step (k)) and a replacement radio commercial stream is selected from the array having an associated time length equal to the read duration time and which matches a desired demographic information and user preference (steps (d) and (l)). The selected replacement radio commercial stream is then substituted for the broadcast radio commercial stream (step (m)) and steps (h) through (l) are repeated to yield an edited Internet radio program (step (n)) which the listener of the Internet radio program stream receives.

Claim 7 is the system counterpart to the method of claim 1. Claim 7 is drawn to “[a]n interactive system for substituting broadcast commercial streams of an Internet radio program stream with replacement commercial streams” and it includes elements that function to perform a number of the steps described in claim 1. For example, the system of claim 7 includes a radio station means for marking the broadcast commercial streams of the Internet radio program (element (a)) and an input server means for receiving the marked Internet radio program by an Internet hosting service (element (b)). In other respects, the system of claim 7 is not restricted to perform precisely all the steps claimed in claim 1. For example, the system claimed requires a commercial storage means of the Internet hosting service for storing a plurality of digitized radio commercial streams and user’s preferences. But, unlike the method of claim 1, the system does not require the plurality of radio commercial streams to be stored as an array. Nevertheless, claim 7 describes a combination of processors, servers, a



storage means, a marking means, and a decoder which function together to edit an Internet radio program stream so as to substitute selected replacement radio commercial streams for broadcast commercial streams on the Internet radio program stream.

The Examiner relied on Chen to show all the steps and elements of the claimed method and system *but for* the comparing step (step (k)) (see Answer 5-6) and the use of demographics and user preferences in selecting which of stored replacement commercial radio streams should replace a marked broadcast radio commercial stream on an Internet radio program stream (steps (d) and (l)) (see Answer 6-7). For these limitations, the Examiner relied on Capek and Wachob.

We will not focus our attention on Capek and Wachob because we find that a prima face case has nevertheless not been established given the insufficiency of the evidence in the record to support the Examiner's apparent contention that many limitations of the claimed invention related to broadcasts of Internet radio programs were well known in the art. Neither Capek nor Wachob disclose or suggest techniques for substituting a replacement commercial radio stream for a broadcast radio commercial stream on an Internet radio program stream. Capek concerns the delays users experience when downloading information from the Internet. Capek seeks to take advantage of this delay by inserting information for the user to see during the delay. The inserted material could be advertising. See col. 8, ll. 53-58. Wachob is directed to cable television and describes a technique whereby commercials targeted to a specific audience may be inserted in the broadcast.

Chen discloses replacing commercials in a digital video stream but the inserted material may be audio-only packets. See col. 4, l. 57-59; also col. 4, ll. 41-44. Nevertheless, Chen is particularly concerned with digital transmission of television broadcasts over cable systems. There is no disclosure about Internet radio programs or broadcast radio commercial streams on an Internet radio program stream. The Internet is mentioned but twice: on Fig. 1, at element 106 and at col. 4, l. 21. There, the Internet is mentioned in the context of an “Internet gateway” that acts as one of a number of possible data sources for a video stream to be communicated to a network (i.e., ATM 122) and then to a Digital Ad Insertion Module (DAIM 130) where commercials may be inserted.

In the context of replacing commercials in a digital video stream, Chen describes using commercials stored in a storage unit (col. 4, ll. 39-41) to replace (e.g., overwrite) commercials already in the digital video stream (col. 8, ll. 1-5; see also col. 14, ll. 9-11). Chen describes various techniques for inserting the replacement commercial, including, for example, marking the video stream with beginning (T<sub>in</sub>) and ending (T<sub>out</sub>) insertion points (col. 6, ll. 1-10) and then parsing the video stream to detect the splicing signal T<sub>in</sub> (col. 12, ll. 36-37).

Chen’s technique for editing commercials in a video stream is therefore similar to the technique described by instant claim 1. Like the claimed method, Chen’s technique causes commercials in a digital data stream to be replaced with stored replacement commercials. Like the claimed invention, Chen’s technique causes the main broadcast stream to be marked so as to provide indications where replacement commercials may be inserted once those insertion points have been detected. Chen’s technique

would also appear to suggest comparing the duration time of a commercial on the video stream marked for replacement and a stored replacement commercial because, as the Examiner (Answer 11-12) pointed out, Chen (col. 1, l. 65-col. 2, l. 3) discloses avoiding discontinuity in using its method.

But that is where the similarities end. Chen does not describe using any aspect of the Internet relevant to Internet radio broadcasts. The method described by claim 1, for example, involves the use of an Internet service provider or Internet hosting service to perform particular functions in yielding an edited Internet audio stream. The method of claim 1 requires the steps of “transmitting [ ] marked Internet radio program stream to [an] Internet hosting service”; “receiving of [the] marked Internet radio program stream by said Internet hosting service” and “examining of said marked Internet radio program stream by said Internet hosting service.” We are unable to find any disclosure of these limitations in Chen. Nor are we able to find in Chen any disclosure of storing digitized radio streams in an array at an Internet service provider as required by claim 1.

Nor does Chen disclose a combination of processors, servers, a storage means, a marking means, and a decoder which could function together to edit an Internet radio program stream so as to substitute selected radio commercial streams for commercial streams broadcast on the Internet radio program stream as claim 7 requires. The system described by claim 7 requires an input server for receiving the marked Internet stream from an Internet hosting service and a storage means at the Internet hosting service for storing the replacement radio commercials. We do not find these, among other claimed elements, disclosed in Chen.

Accordingly, Chen does not disclose many limitations of the claimed invention that are related to broadcasts of Internet radio programs.

Given the absence of disclosure in Chen, as well as Capek and Wachob, of these claimed limitations related to broadcasts of Internet radio programs, the conclusion that the claimed subject matter is prima facie obvious necessarily depends on whether these claimed aspects of the Internet were generally known to those of ordinary skill at the time of the invention. Otherwise, one of ordinary skill would not have been led to adapt Chen's method and system to the editing of Internet radio broadcast streams as claimed. The conclusion that the claimed subject matter is prima facie obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. *See In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Since the claimed limitations related to broadcasts of Internet radio programs are not disclosed in the cited prior art, there must be evidence to support that they were generally available to those of ordinary skill in the art at the time of the invention. While the Examiner does appear to take the position that the claimed limitations related to broadcasts of Internet radio programs were generally known in the art, the evidence in support thereof is insufficient.

The Examiner argued that Chen's system is similar to that of the Internet (e.g., they both use data packets). Answer 9-12. The Appellants disagreed arguing that Chen's cable television system is very different from the claimed aspects of an Internet system. App. Br. 6-11 and Reply Br. 3-6.

In rebuttal to the Appellants' argument that Chen involves a complicated infrastructure not contemplated by the instant invention, the Examiner responded by arguing that "an Internet System also requires an elaborate (but very similar) structure of specialized, dedicated hardware (e.g. modem, distribution network, and Internet Service Provider server computer) in order to provide content, such as online radio/television broadcasts, to the consumer." Answer 11. In making these arguments, the Examiner necessarily presumes that one of ordinary skill in the art at the time of the invention would have known about those aspects of the Internet that are claimed and, given that knowledge, would have understood how to adapt Chen's method and system to the Internet and thereby apply Chen's commercial insertion techniques to Internet radio programs broadcast by a radio station to an Internet hosting service such that replacement radio commercial streams could be substituted for a plurality of broadcast radio commercial streams. But there is insufficient evidence on the record to support finding that one of ordinary skill in the art at the time of the invention would have had that knowledge at the time of the invention.

Notwithstanding the current understanding of the similarities between the Internet system and Chen's cable television system, there is insufficient evidence on the record to support that any of the claimed steps and elements related to broadcasts of Internet radio programs that the Examiner alleges to have been well known in the art were in fact well known in the art at the time the application was filed. Furthermore, even if we assumed the steps and elements were known, there is insufficient evidence that one of ordinary skill in the art at that time would have known to combine them in the manner claimed to yield an edited Internet radio broadcast stream. We agree with the

Appellants that “the Examiner’s purported experience, although possibly indicative of the present state of the art, is not relevant to consideration of the state of the art as of the filing date (January 5, 2000) of the instant application.” Reply Br. 6 (emphasis original). Without sufficient supporting evidence that the claimed steps and elements related to broadcasts of Internet radio programs were known to one of ordinary skill in the art at the time the application was filed and known at that time to perform as claimed so as to yield an edited Internet radio broadcast stream, we are compelled to find that the prior art would not have led one of ordinary skill in the art to modify Chen’s method and system to obtain a method and system for replacing a plurality of broadcast radio commercial streams on an Internet radio program broadcast by a radio station to an Internet hosting service with a plurality of replacement radio commercial streams, as claimed.

Accordingly, we find that a prima facie case of obviousness for the claimed invention has not been established over the cited prior art.

### CONCLUSION

We conclude that the Appellants have shown that the Examiner erred in rejecting claims 1-4 and 7-9 under 35 U.S.C. § 103(a) as being unpatentable over Chen, Capek, and Wachob.

Appeal 2007-4266  
Application 09/477,936

DECISION

The decision of the Examiner to reject claims 1-4 and 7-9 is reversed.

REVERSED

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